## Patent claims

5

20

25

 A copolymer containing polyoxymethylene blocks of the structural repeat units of the formula I and blocks containing structural units of the formula II

$$[-O-CH_2-]_x$$
 (I),  $[-O-R^1-]$  (II),

- where R<sup>1</sup> is a divalent radical derived from a hydroxy-terminated aliphatic or cycloaliphatic oligomer or polymer which, where appropriate, has ether groups and/or carbonyloxy groups in the chain, and x is a whole number, at least 10.
- 15 2. The copolymer as claimed in claim 1, wherein x is a whole number from 500 to 10.000, preferably from 1.500 to 5.000.
  - 3. The copolymer as claimed in claim 1, whose polyoxymethylene blocks also contain structural repeat units of the formula III

$$-(C_yH_{2y}-O-)_z \qquad (III),$$

besides the structural repeat units of the formula I, where y is a whole number from 2 to 4, and z is a whole number from 1 to 3.

- 4. The copolymer as claimed in claim 1, wherein R<sup>1</sup> is a –(C<sub>m</sub>H<sub>2m</sub>-O-)<sub>r</sub>-C<sub>m</sub>H<sub>2m</sub>- radical, m is a whole number from 2 to 4, and r is a whole number from 20 to 1.500, preferably from 50 to 1.000.
- 30 5. The copolymer as claimed in claim 4, wherein m is 2.
  - 6. A process for preparing the copolymer as claimed in claim 1, encompassing the following measures:
- 35 i) forming an initial charge from monomers which form –O-CH<sub>2</sub>units together with monomers of the formula V

$$HO-R^1-OH$$
 (V),

where  $R^1$  is as defined in claim 1, together with a catalyst usually used for polymerizing the monomers forming the  $-O-CH_2$ - units, and, where appropriate, together with a solvent, and/or with regulators, and

5

- ii) carrying out the copolymerization at a temperature of from 120 to 300°C and at a pressure of from 2 to 500 bar.
- 7. The process as claimed in claim 6, wherein the resultant block copolymer is treated, after the preparation, with water and/or with a water-soluble alcohol at from 30 to 100°C, preferably at from 50 to 80°C.
- 8. The use of the copolymers as claimed in claim 1 for producing moldings.